





## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:

C12N 9/12, C12Q 1/48, C07K 14/47, C12N 15/63, 5/10, C12S 3/14, C07K 1/113, 19/00, A61P 43/00

(11) International Publication Number:

WO 00/56864

(43) International Publication Date: 28 September 2000 (28.09.00)

(21) International Application Number:

PCT/GB00/01004

**A2** 

(22) International Filing Date:

17 March 2000 (17.03.00)

(81) Designated States: JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,

(30) Priority Data:

9906245.7

19 March 1999 (19.03.99)

GB

Published

Without international search report and to be republished upon receipt of that report.

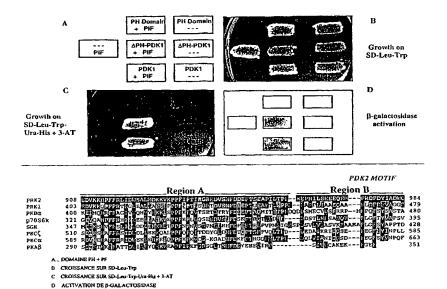
(71) Applicant (for all designated States except US): UNIVERSITY OF DUNDEE [GB/GB]; 11 Perth Road, Dundee DD1 4HN (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ALESSI, Dario [GB/GB]; 309, Perth Road, Dundee DD2 1LG (GB). BALENDRAN, Anudharan [LK/GB]; Flat 26, Peterson Hall, 25 Roseangle, Dundee DD1 4LS (GB). DEAK, Maria [HU/GB]; 18 Forth Place, Dundee DD2 4HT (GB). CURRIE, Richard [GB/GB]; 31 Seymour Street, Dundee DD2 1HA (GB). DOWNES, Peter [GB/GB]; 15 West Acres Drive, Wormit DD6 8NR (GB). CASAMAYOR, Antonio [ES/US]; Department of Molecular, Cellular and Developmental Biology, Yale University, New Haven, CT 06520-8103 (US).

(74) Agent: MILES, John, S.; Eric Potter Clarkson, Park View House, 58 The Ropewalk, Nottingham NG1 5DD (GB).

(54) Title: ENZYME



## (57) Abstract

A method of altering the substrate specificity of phosphoinositide-dependent protein kinase 1 (PDK1) wherein the said PDK1 is exposed to a polypeptide which comprises the amino acid sequence Phe/Tyr-Xaa-Xaa-Phe/Tyr-Zaa-Phe/Tyr wherein Zaa represents a negatively charged amino acid residue. The PDK1 with altered substrate specificity is capable of phosphorylating the underlined residue in a polypeptide with an amino acid sequence corresponding to the consensus sequence Phe/Tyr-Xaa-Xaa-Phe/Tyr-Ser/Thr-Phe/Tyr. The PDK1 with altered specificity may be useful in screening assays and for phosphorylating substrates having the above consensus sequence.